



Space Day: Prospecting for Knowledge

26 -Hubble Space Telescope – Teacher Page

Purpose: To learn about one aspect of exploring space.

Materials:

- Bathroom tissue roll
- Sheet of foil, 6" x 8"
- 6" skewer
- 2 black construction paper strips, 1 1/2" x 6"
- 1 black construction paper circle, approx. 2" in diameter
- 1 black construction paper square, 2" x 2"
- Tape
- Scissors (optional)

Background: The Hubble space telescope revolutionized optical astronomy when it became fully operational. It looks into the depths of space with a 7.8 foot diameter reflecting telescope. Because of its location above the atmosphere, it can see farther into space than we can from the ground. It transmits its data to the Science Institute in Baltimore via a tracking and data relay satellite (TDRS), a ground station at White Sands, and NASA's Goddard Space Center.

This activity: Students will construct a simple model of the Hubble space telescope to learn about one aspect of exploring space.

Preparation: Supplies will need to be collected. Older students can cut the black construction pieces on their own. Younger students will need the pieces precut. (Note: Use an end of the bathroom tissue roll as a "stencil" to trace a black circle onto black paper with a pencil, chalk, or white crayon.) A nail or screw works best to puncture the hole on both sides of the bathroom tissue roll. An adult should puncture the holes. The skewer can then be easily inserted by the student.

In class: Each student receives a bathroom tissue roll, piece of foil, a skewer, black construction paper (or precut pieces), and tape.

Extension: Students can be encouraged to write a story or draw a picture depicting a new discovery in space.

Reference: The Illustrated History of NASA by Robin Kerrod.



Space Day: Prospecting for Knowledge

26 - Hubble Space Telescope - Student Page

Materials:

- Bathroom tissue roll
- Sheet of foil, 6" x 8"
- 6" skewer
- 2 black construction paper strips, 1 1/2" x 6"
- 1 black construction paper circle, approx. 2" in diameter
- 1 black construction paper square, 2" x 2"
- Tape
- Scissors (optional)

Procedure:

1. Roll the sheet of foil around the bathroom tissue roll, shiny side out. Secure the foil by tucking it into the roll at each end. (This is the main body of the telescope.)
2. Have an adult puncture two holes in the middle of the roll, one on each side.
3. Insert the skewer through both holes.
4. Attach a 1 1/2" x 6" strip of black paper to each skewer. (These are the "solar arrays".)
5. Close one end of the "telescope" using a construction paper circle and tape.
6. Use a piece of tape to attach a black construction paper "flap" over the other end. (This flap opens and closes over the telescope's lens.)